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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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05/14/90

EXAMINER

FRANK H

ART UNIT

PAPER NUMBER

2577

DATE MAILED:

09/09/91

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/641,795

Applicant(s)

ZAVISLAN, JAMES M.

Examiner

Hoa Q. Pham

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371[®] of this title before the invention thereof by the applicant for patent.

2. Claims 29-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Barenboim et al. (5,699,160).

Regarding claims 29, 31, 32, 33, 34, 36-38; Barenboim et al (of record) teaches an optical apparatus for inspecting laser texture comprises: a polarization separator (34) and a polarization retarder (30) which are disposed successively in the path of the light received by the medium (82) receives into light which is polarized generally orthogonally and is incident on the medium at spots spaced laterally from each other. (See figure 1 of Barenboim et al).

Regarding claims 30 and 35, Barenboim et al teaches that the polarization separator (34) is a Wollaston prism which is the same as the present invention used, thus it is inherent that the beams are overlapping in the medium.

3. Claims 29-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Bou-Ghannam et al (5,710,631).

Regarding claims 29, 31, 32, 33, 34, 36-38; Bou-Ghannam et al (of record) teaches an interferometer comprises: a polarization separator (18) and a polarization retarder (70) which are disposed successively in the path of the light received by the medium (16) receives into light which is polarized generally orthogonally and is incident on the medium at spots spaced laterally from each other. (See figure 1).

Regarding claims 30 and 35, Bou-Ghannam et al teaches that the polarization separator (18) is a Wollaston prism (column 9 line 37) which is the same as the present invention used, thus it is inherent that the beams are overlapping in the medium.

4. Claims 29-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Ooki et al (5,764,363).

Regarding claims 29, 31-34 and 36-38; Ooki et al discloses an apparatus for observing a surface using polarized light which comprises: a polarization separator (36) and a polarization retarder (40) which are disposed successively in the path of the light received by the medium (38) receives into light which is polarized generally orthogonally and is incident on the medium at spots spaced laterally from each other (see figures 7-16).

Regarding claims 30 and 35, the polarization separator (5,36,116) is a Nomarski prism (see figures 1,7,23 and column 30 lines 14-31) which is the same as the present invention used, thus it is inherent that the beams are overlapping in the medium.

5. Claims 29-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (3,958,884).

Regarding claims 29, 31-34, and 36-38; Smith (of record) discloses an interferometric apparatus comprising: a polarization separator (9, 24, 34, 35, 49) and a polarization retarder (10, 25, 36, 52), which are disposed successively in the path of light received by a medium (13), the light received by the medium passing from the separator through the retarder and then to the medium, for processing the light the medium receives into a pair of light beams (a,b), the light in each of which beams is polarized generally orthogonally (column 11 lines 23-27) and is incident on the section at spots spaced laterally from each other while the beams are overlapping in the medium at the sites, and a detector responsive to return light from both beams thereby providing for interference of light returned from the sites and enabling construction of the image in response to a parameter of the return light. See figures 4-7.

Regarding claims 30 and 35; Smith use the same prism as the present invention, thus it is inherent that the beams are overlapping in the medium.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

7. Claims 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooki et al, Smith, Bou-Ghannam et al, or Barenboim et al (all of record).

Ooki et al, Smith, Bou-Ghannam et al, and Barenboim et al do not teach the use of reference arm and a sample arm; however, the examiner take the Official notice that such a feature is well known in the field of interferometry. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the system of Ooki et al, Smith, Bou-Ghannam et al, or Barenboim et al into such interferometry system for the purpose of detecting defects in a test surface, or for investigating surface topography.

Response to Arguments

8. Applicant's arguments filed 5/29/01 have been fully considered but they are not persuasive.

a. Applicant's remarks, pages 2-3, argue that the references do not teach that the beams separated from the separator (Wollaston prism or Nomarski prism) are different polarizations. The argument is not deemed to be persuasive because this limitation is taught by the references, for example, see column 8 lines 59-67 of Bou-Ghannam et al for orthogonal polarizations, column 30 lines 14-21 of Ooki et al, column 4 lines 34-55 of Barenboim et al.

b. Applicant's remarks, page 3, argues that the beams are not overlapping. As mentioned above, Barenboim et al discloses a Wollaston prism (34) and objective lens (52) which arrange the same as in figures 2 and 4 of the present invention. Thus, the

overlapping is inherent in the references. In addition, this limitation may not be given any patentable weight because the use of terms "capable of" in the claims does not provide a positive limitation (see *In re Hutchison*, 69 USPQ 138).

c. Applicant's remark, page 3, argues that "there is no polarization circularizing optics after the prism" in the references. However, the present claimed invention does not recite any "polarization circularizing optics" after the prism. In addition, the statement "but the perpendicularity as pointed out is along the axis and in a plane perpendicular to the optical axis" is not understood. Applicant is noted that the references disclose at least the linearly polarized in mutually perpendicular directions.

d. Applicant's Remarks, pages 5-6, argues that there is no polarization separator and retarder in a location in the Smith optics, which provide different polarization in the imaging plane. Applicant is noted that Smith does teach a beam separator (9,24,34,35,49) and retarder (10) and the beams have opposed sense of generally orthogonal polarization (column 11 lines 23-28). In addition, the retarder argued by applicant is not claimed in the claims.

In view of the foregoing, it is believed that the rejections under 35 U.S.C 102 and 103 are proper.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

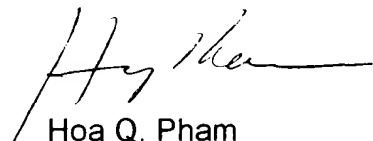
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham
Primary Examiner
Art Unit 2877

Pham/hp
August 8, 2001

T.D. INFORMAL MEMO: DO NOT MAIL THIS MEMO TO APPLICANT

DATE: 14-Jun-01APPL. S.N.: 09/641,795TO: EXAMINER Pham, HoaART UNIT: 2877FROM: Hoppe, Sharon

PARALEGAL SPECIALIST

RETURN THIS MEMO TO: **CP4-6D28**SUBJECT: Decision on Terminal Disclaimer (T.D.) filed: 29-May-01

INSTRUCTIONS: I have reviewed the submitted T.D. with the results as set forth below. If you agree, please use the appropriate form paragraphs identified by this informal memo in your next Office action to notify applicant of the T.D. If you disagree or have any questions, please see me or the Special Program Examiner. THIS IS AN INFORMAL, INTERNAL MEMO ONLY. IT MUST NOT BE (1) MAILED TO APPLICANT OR (2) PLACED OF RECORD IN THE APPLICATION FILE. When your action is complete, please initial, date and return this memo to me. THANK YOU.

☒ The T.D. is PROPER and has been recorded (see ¶ 14.23).

☐ The T.D. is NOT PROPER and has not been accepted for the reason(s) checked below (see ¶ 14.24):

☐ The T.D. fee of _____ has not been submitted nor is there any authorization in the application file for the use of a deposit account (see ¶ 14.26.07).

☐ The T.D. does not satisfy Rule 321 in that the person who has signed the T.D. has not stated the extent of his/her interest (and/or the extent of the interest of the business entity represented by the signature) in the application/patent (see ¶¶ 14.26 & 14.26.01).

☐ The T.D. lacks the enforceable only during common ownership clause – needed to overcome a non-statutory double patenting rejection, Rule 321(b) (see ¶ 14.27.01).

☐ The T.D. is directed to a particular claim(s), which is not acceptable since "the disclaimer must be for a terminal portion of the term of the entire patent to be granted" (MPEP 1490) (see ¶¶ 14.26 & 14.26.02).

☐ The person who signed the T.D.:

☐ is not an attorney "of record" (see ¶¶ 14.29 and 14.29.01).

☐ has failed to state his/her capacity to sign for the business entity (see ¶ 14.28).

☐ is not recognized as an officer of the assignee (see ¶¶ 14.29 & possible 14.29.02).

No documentary evidence of a chain of title from the original inventor(s) to assignee has been submitted, nor is the reel and frame number specified as to where such evidence is recorded in the Office (see 37 CFR 3.73(b) and 1140 O.G. 72). NOTE: This documentary evidence or the specifying of the reel and frame number may be found in the T.D. or in a separate paper of record in the application (see ¶ 14.30).

☐ The T.D. is not signed (see ¶¶ 14.26 & 14.26.03).

☐ The serial number of the application (or the number of the patent) which forms the basis for the double patenting rejection is missing or incorrect (see ¶ 14.32).

☐ The serial number of this application (or the number of the patent in reexam or reissue cases being disclaimed is missing or incorrect (see ¶¶ 14.26, 14.27.02 or 14.26.05).

☐ The period disclaimed is incorrect or not specified (see ¶¶ 14.26, 14.27.02 or 14.26.03).

☐ Other:

☐ Suggestion to request refund (see ¶ 14.36). NOTE: If already authorized, credit refund to deposit account and **do not** check this item.

I have appropriately notified applicant(s) of the status of the Terminal Disclaimer filed in this case.

Ex. Initials: _____ Date: _____

Log Date